UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/537,450	03/27/2000	Ashish Kishor Lele	U012676-7	4563

140 7590 04/08/2002

LADAS & PARRY
26 WEST 61ST STREET
NEW YORK, NY 10023

EXAMINER
ZALUKAEVA, TATYANA

ART UNIT	PAPER NUMBER
1713	7

DATE MAILED: 04/08/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

TP-7

Office Action Summary	Application No. 09/537,450	Applicant(s) LELE ET AL.	
	Examiner Tatyana Zalukaeva	Art Unit 1713	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *29 January 2002* .

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *18-44* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *18-44* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Response to Amendment

1. Applicants' amendment Paper No. 6, filed 02/04/2002 has overcome rejections under 35 USC 112 first and second paragraph and the rejections are therefore withdrawn.

2. Cancellation of claims 1-17 is acknowledged. Claims 18-44 are pending in the Application.

3. Applicants' amendment stating that the ratio of hydrophobic to hydrophilic groups in monomer(s) as of 1.0:0.1 as introduced in claim 18 has removed the reference to Wesley from the scope of 35 USC 102(b) rejection.

4. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

5. Claims 1-35 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The recited ratio of hydrophobic and hydrophilic groups as per claim 1 constitutes an indefinite subject matter because it is not clear if it is a weight or a mole ratio, and how it is calculated in case of one monomer.

6. Claims 33-35 recite the limitation "multifunctional monomer" in corresponding lines 2 of each claim . There is insufficient antecedent basis for this limitation in the claim.

7. Claims 18, 19, 24-37, and 43 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Mertens et al (U.S. 5,408,019) in combination with Applicants' admission of the prior art.

Martens discloses a method of making a cross-linked, water-absorbent polymer obtainable by the polymerization of a mixture consisting of a) 60-99%-wt. unsaturated, polymerizable monomers with acid groups which are neutralized to the extent of at least 30 mol-%, b) 0-37%-wt. monomers copolymerizable with a), c) 0.1-3.0%-wt. of a cross-linking agent and d) 0-10%-wt. of a water-soluble polymer, in which polymerization is conducted with a redox catalyst system containing formamidine sulfinic acid as reducing agent. (see abstract).

The process steps are conveniently described in working Example 1 in col. 5, wherein the steps are

a) mixing monomers with crosslinking agent and free radical initiator, such as ter-butyl hydroperoxide

b) subjecting mixture to polymerization;

c) removing polymer, crushing and screening polymer;

d) washing and drying polymer

The residual monomer content is determined by HPLC (col.4, line 67).

With regard to the ratio of hydrophilic and hydrophobic groups in comonomers or in one monomer, as per instant claim 18, Martens provides Example 13 and Table 3, wherein weight proportions of acrylic acid and AMPS are provide from 90:10 to 10:90, which is readable on the ratio of the instant claim 18.

With specific regard to claims 25-29 Martens monomers and their amounts in a copolymerization mixture set forth in col. 3, lines 20-55 and in working examples commensurate in scope and content with the instant claims.

The solvent of Martens is preferably water, (col. 3, lines 55-60) the polymerization is carried out in aqueous solution. (see examples 1-17.). The monomers and crosslinking agent are dissolved in water so that the monomer concentration of the polymerization mixture amounts to 20-35% (col. 3, lines 58-60).

Hydroperoxides and azocompounds are used as a part of catalytic system. The disclosure of Martens provides identical monomers and catalyst, as well as the mode of polymerization except for the step of swelling a polymer in an alcohol to obtain a polymeric absorbent. However, on pages 2 and 3 of the Specification Applicants admit that it is conventional to swell the absorbent polymers in an alcohol to obtain an absorbent gel, as done for example with identical polymers in U.S. 5,641,890 to Wesley.

Therefore, one skilled in the art would have found it obvious at the time the invention was made to swell the resulting polymer of Martens in alcohol as done by Wesley for similar polymer and for similar purpose in order to obtain the absorbing gel and thus to arrive at the missing step as per instant claim 1.

8. Claims 18- 44 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wesley (U.S. 5,641,890).

Wesley discloses a process for making a polymer and **gelled organic liquids** by using in combination with an amine neutralized anionic polymer and an auxiliary rheological additive. The auxiliary rheological additive is a substance which increases the linearity of the anionic polymer and its thixotropic properties. Suitable auxiliary rheological additives are **amphoteric oxides** and/or fatty acids and/or fatty **acid salts**. The organic liquids that can be effectively gelled are organic solvents which include fuels such as hydrocarbons and **alcohols**. (see abstract).

The gelled solvents of Wesley contain 0.1 to 10% of an anionic polymer and 0.1 10 % of an auxillary reological additive (col. 2, lines 47-50). The said reological additive is a transition metal salt of long chain fatty acids, the metals are listed in col.12, lines 40-50, which are preferably used in the range of 0.02 to 2%. (for example, 200 ppm is 0.2%) This covers the limitations of the transitional metals present in a polymerization and their amounts, ass per instant claims 1,3, 4 and 5.

Amine neutralized anionic polymers contemplated within the scope of Wesley's disclosure comprise polyacrylic acid polymers such as the CARBOPOLS, sulfonated polymers containing a sulfonate functionality, as well as copolymers containing a maleic anhydride functionality, such as a crosslinked GANTREZ.

Exemplary of the cross-linked polyacrylic acid-type agents are Carbopol 941, Carbopol 676, Carbopol 940 and Carbopol 934 (col. 5, lines 49060, col.6, lines 45).

Polyacrylic type monomers in combination with other comonomers, such as styrene, maleic acid, 2-hydroxyethylacrylate can also be used (col. 6, lines 33-36).

These agents are used by Wesley in their lightly cross-linked form wherein the cross-linking may be accomplished preferably, by the incorporation into the

monomer mixture to be polymerized of known chemical cross-linking monomeric agents, typically polyunsaturated (e.g. diethylenically unsaturated) monomers, such as, for example, divinylbenzene, divinylether of diethylene glycol, N, N'-methylene-bisacrylamide, and the like. Typically, amounts of cross-linking agent to be incorporated in the final polymer may range from 0.01 to 1.5 (col. 6, lines 53-65).

In regard to the steps and mode of the process for the preparation of a composition, Wesley provides the mode wherein the crosslinked CARBOPOL copolymer, which is obtained by free radical polymerization of a corresponding monomer(s) with crosslinking agent in a solvent is mixed with an auxillary additive and then added to an alcohol fuel to ensure the gelation.

Wesley is silent about the ratio of hydrophobic and hydrophilic groups in a polymer being 1.0 :0.1. However in the process claims it is important that the steps of the process are met by the prior art disclosure. It is axiomatic that one who performs the steps of the known process must necessarily produce all of its advantages, as per ***Leinoff v. Louis Milona & Sons, Inc***. 220 USPQ 845 (CAFC 1984). Therefore lacking the evidence of criticality of the hydrophilic to hydrophobic groups ratio, one skilled in the art would have found it obvious to utilize different concentrations of comonomers, as suggested by Wesley, including those as instantly claimed with the reasonable

suggested by Wesley, including those as instantly claimed with the reasonable expectation of success.

Conclusion

9. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

10. Other references cited in PTOL-892 show the general state of the art.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tatyana Zalukaeva whose telephone number is (703) 308-8819. The examiner can normally be reached on 9:00 - 5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Wu can be reached on (703) 308-2450. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9310 for regular communications and (703) 872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0651.

Tatyana Zalukaeva
Examiner
Art Unit 1713

TZ
April 3, 2002

DAVID W. WU
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 1700